

**ABSTRACT**

This invention provides a magnetron high frequency device which includes: a filtering inductor coupled to a positive end of a direct current power supply; a central tap transformer having a central tap end, a first end and a second end; a filtering capacitor; a first switch which is connected in series to the second end of the central tap transformer and connected to a negative end of the direct current power supply; an in-series circuit having a second switch and a second capacitor and coupled to the central tap transformer; a first capacitor connected in-series with the central tap transformer and connected in parallel with the first switch; a rectifying device coupled to a secondary winding of the central tap transformer; and a magnetron coupled to the rectifying device. The first capacitor, the second capacitor and the central tap transformer forms a resonant circuit.